In The Claims

1.-6. (Cancelled).

7. (Currently Amended) A method for synchronizing a receiver to a transmitter comprising the following steps:

receiving a digital signal from the ~~receiver~~ transmitter;

demodulating long sync symbols from the digital signal;

correcting for a fractional portion of frequency offset; and

~~The method of claim 5 comprising the additional step of~~ combining modulation values from two long sync symbols.

8. (Currently Amended) A method for synchronizing a receiver to a transmitter comprising the following steps:

receiving a digital signal from the ~~receiver~~ transmitter;

demodulating long sync symbols from the digital signal;

correcting for a fractional portion of frequency offset; and

~~The method of claim 5 comprising the additional step of~~ extracting vectors of modulation values of data sub-carriers with progressive trial integer offsets.

9. (Original) The method of claim 8 comprising the additional step of dividing each vector by long sync symbol modulation values to obtain channel transfer functions.

10. (Original) The method of claim 9 comprising the additional step of estimating odd frequency values for each of the channel transfer functions.

11. (Original) The method of claim 10 wherein the step of estimating odd frequency values is performed using an interpolation algorithm.

12. (Original) The method of claim 9 comprising the additional steps of:

correlating the interpolated odd frequency values of the channel transfer function and the actual odd frequency values; and

selecting a correlation value to identify an integer frequency offset number.

13. (Original) The method of claim 9 comprising the additional steps of:

correlating the interpolated odd frequency values of the channel transfer function and the actual odd frequency values to create a correlation value;

computing a magnitude of the correlation value; and

selecting the largest magnitude of the correlation value to identify an integer frequency offset number.

14. (Original) The method of claim 13 comprising the additional steps of:

associating the largest magnitude of the correlation value with a channel transfer function;

using the channel transfer function to correct data symbols for amplitude and phase shifts.

15. (Original) A method for synchronizing a receiver to a transmitter comprising the following steps:

receiving a digital signal from the ~~receiver~~ transmitter;

delaying the digital signal by a sample processing interval to produce a delayed signal;

correlating the digital signal and delayed signal to create a correlator output;

determining a phase shift of the correlator output corresponding to a maximum value of the correlator output wherein the phase shift is an estimate of the fractional portion of carrier frequency offset;

extracting long sync symbols from the digital signal;

correcting for a fractional portion of frequency offset;

extracting vectors of modulation values of data sub-carriers with progressive trial integer offsets;

dividing each vector by long sync symbol modulation values to obtain channel transfer functions;

estimating odd frequency values for each of the channel transfer functions;

correlating the interpolated odd frequency values of the channel transfer function and the actual odd frequency values; and

selecting a correlation value to identify an integer frequency offset number.

16.-21. (Cancelled).